TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT

NON-DESTRUCTIVE EVALUATION OF RH WASTE

Identification No.: RL-MW037
Date: October 2001

Program: Waste Management
OPS Office/Site: Richland Operations Office/Hanford Site
PBS No.: RL-CP02
Waste Stream: 1566 – RH TRU Stored/New
TSD Title: 206 – M-91 Facility
Operable Unit (if applicable): N/A
Waste Management Unit (if applicable): N/A
Facility: Future M-91 Facility

Priority Rating:

This entry addresses the "Accelerated Cleanup: Paths to Closure (ACPC)" Priority:

_X_ 1. Critical to the success of the ACPC
____ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high lifecycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays)
____ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

Need Title: Non-destructive Evaluation of RH Waste

Need/Opportunity Category: *Technology Opportunity* – The Site desires an alternative to the current baseline technology.

Need Description: The M-91 facilities that will be repackaging both CH and RH TRU wastes will require containers to be examined using radiographic techniques. RH waste usually contains dense shielding material to meet ALARA requirements for storage. The shielding cannot be penetrated with conventional X-Ray equipment. Develop NDE technology to examine RH TRUW where shielding is internal to packaging that will meet WIPP requirements.

Schedule Requirements:

Earliest Date Required: 2004

Latest Date Required: 2013

Technology needs to be established by the end of fiscal year 2013. This is when the M-91 facility is scheduled to begin processing RH-TRU waste.

Problem Description: It is anticipated that the RH WIPP Waste Acceptance Criteria (WAC), when issued, will require NDE of the waste. This technology is not currently available. Visual inspection is the alternative.

Potential Life-Cycle Cost Savings of Need (in $000s) and Cost Savings Explanation: TBD (visual inspection rather than NDE)

Benefit to the Project Baseline of Filling Need: Reduction of exposure, higher processing rates.

Relevant PBS Milestone: A2G-08-109 M-91-15 Complete Acquisition of Facilities and Initiate Treatment of RH and Large Container (CH) LLMW

Functional Performance Requirements:

Work Breakdown Structure (WBS) No.:	***TIP No.:***
1.2.2	Candidate

Justification For Need:

Technical: No technology for NDE currently exists.

Regulatory: Future issuance if RH WIPP WAC

Environmental Safety & Health: If packages can be x-rayed rather than repackaged, it would reduce personnel exposure.

Cultural/Stakeholder Concerns: N/A

Other: None identified.

Current Baseline Technology: Visual inspection

End-User: Waste Management.

Contractor Facility/Project Manager: TBD

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Waste volume, m^3	Current: 302 m^3; Forecasted (total long-term): 879 m^3
Waste form	RH TRU solid waste
Waste stream I.D.	1566
Contaminants and co-contaminants	TBD
Function of technology	Provide NDE technology for RH TRU with internal shielding
Source category	Various Hanford Site programs